



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/653,870	09/01/2000	JARLE SVEAN	USP00283D	6026

466 7590 02/18/2004

YOUNG & THOMPSON  
745 SOUTH 23RD STREET 2ND FLOOR  
ARLINGTON, VA 22202

EXAMINER

RAMAKRISHNAIAH, MELUR

ART UNIT	PAPER NUMBER
----------	--------------

2643

DATE MAILED: 02/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/653,870

Applicant(s)

SVEAN ET AL.

Examiner

Melur Ramakrishnaiah

Art Unit

2643

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 01 September 2000.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11, 13-16 is/are rejected.
- 7) ☒ Claim(s) 12 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>5</u> . | 6) <input type="checkbox"/> Other: _____  |

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 1, is rejected under 35 U.S.C 102(b) as being anticipated by Killion (US PAT: 5,577,511).

Regarding claim 1, Killion discloses a ear terminal comprising a sealing section for arrangement in the meatus of a human comprising: an inner microphone (40, fig. 1) having a sound inlet (45, fig. 1) for being directed into the meatus, an electronic unit in (125, fig. 1) coupled to the inner microphone (40) and also coupled to a power supply (120, fig. 1) as well as an outer microphone (25, fig. 1) for converting acoustic signals in the environment into electrical signals (col. 3 line 33 to col. 4 line 44).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2-5, 6-7, 9, are rejected under 35 U.S.C. 103(a) as being unpatentable over Killion in view of Racca (EP 0684750A2).

Regarding claims 2-5, Killion does not teach the following: pressure alignment channel for slow air throughput to and from the meatus through the sealing

section, sound inlet is constituted by canal between the microphone and inward facing portion of the sealing section and meatus, pressure alignment channel includes a pressure release valve arranged for opening if pressure difference between the meatus and the environment of the user exceeds a predetermined limit, bypass channel in the pressure alignment channel.

However, Racca discloses in the ear hearing aid which teaches the following: pressure alignment channel (reads on 401, fig. 4) for slow air throughput to and from the meatus through the sealing section, sound inlet is constituted by canal between the microphone and inward facing portion of the sealing section and meatus, pressure alignment channel includes a pressure release valve (reads on 7, fig. 2) arranged for opening if pressure difference between the meatus and the environment of the user exceeds a predetermined limit, bypass channel (reads on 501, fig. 2) in the pressure alignment channel (col. 5 lines 10-58, col. 6 lines 1-5).

Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Killion's system to provide for the following: pressure alignment channel for slow air throughput to and from the meatus through the sealing section, sound inlet is constituted by canal between the microphone and inward facing portion of the sealing section and meatus, pressure alignment channel includes a pressure release valve arranged for opening if pressure difference between the meatus and the environment of the user exceeds a predetermined limit, bypass channel in the pressure alignment

channel as this arrangement would provide means for providing optimum acoustic conditions for user as taught by Racca.

Killion differs from claims 6-7, 9, in that he does not teach the following: connection interface coupled to the electronic unit , the eletronic conversion unit being provided with conversion means for converting signals received from the interface and being coupled to the sound generator for transmitting acoustic information to the user, converting signals received from the inner microphone for transmitting electric information from the user, electronic unit comprises filtering means for active sound transmission by amplification of chosen frequencies generated corresponding to acoustic signal through the sound generator.

However, Racca reaches the following: connection interface coupled to the electronic unit (reads on 4, fig. 1) , the eletronic conversion unit in (4, fig. 1) being provided with conversion means for converting signals received from the interface and being coupled to the sound generator (5, fig. 1) for transmitting acoustic information to the user, converting signals received from the inner microphone (2, fig. 1) for transmitting electric information from the user, electronic unit comprises filtering means (implicit in 4) for active sound transmission by amplification of chosen frequencies generated corresponding to acoustic signal through the sound generator (col. 2 lines 55-58, col. 3 lines 1-28).

Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Killion's system to provide for the following: connection interface coupled to the electronic unit , the eletronic conversion unit

being provided with conversion means for converting signals received from the interface and being coupled to the sound generator for transmitting acoustic information to the user, converting signals received from the inner microphone for transmitting electric information from the user, electronic unit comprises filtering means for active sound transmission by amplification of chosen frequencies generated corresponding to acoustic signal through the sound generator as this arrangement would provide means to create necessary acoustic conditions for the user as taught by Racca.

5. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Killion in view of Hofman et al (DE3133107 A).

Regarding claim 8, Killion does not teach the following: electronics unit comprises analyzing means for active noise canceling.

However, Hofman discloses protective earphone noise suppression unit which teaches the following: electronics unit comprises analyzing means for active noise canceling (fig. 2 see abstract).

Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Killion's system to provide for the following: electronics unit comprises analyzing means for active noise canceling as this arrangement would facilitate suppression of noise as taught by Hofman, thus facilitating the protection of user's ears.

6. Claims 10-11, 13, are rejected under 35 U.S.C. 103(a) as being unpatentable over Killion in view of Rickson (GB2184629A).

Regarding claims 10-11, 13, Killion does not teach the following: filtering means coupled to the inner microphone for filtering the signal from the inner microphone, the filtering means being programmable to transform signals based on sounds received in the ear by the inner microphone into sounds having essentially the characteristics of spoken sounds of the wearer of the ear terminal, a connection interface for transmitting the filtered signal from the ear terminal.

However, Rickson discloses compensation hearing which teaches the following: filtering means coupled to the inner microphone for filtering the signal from the inner microphone, the filtering means being programmable to transform signals based on sounds received in the ear by the inner microphone into sounds having essentially the characteristics of spoken sounds of the wearer of the ear terminal, a connection interface for transmitting the filtered signal from the ear terminal (fig. 1, see abstract, page 1 lines 11-20).

Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Killion's system to provide for the following: filtering means coupled to the inner microphone for filtering the signal from the inner microphone, the filtering means being programmable to transform signals based on sounds received in the ear by the inner microphone into sounds having essentially the characteristics of spoken sounds of the wearer of the ear terminal, a connection interface for transmitting the filtered signal from the ear terminal as this arrangement would facilitate provide means for improving user's listening characteristics.

7. Claim 14-15, are rejected under 35 U.S.C. 103(a) as being unpatentable over Killion in view of Rickson as applied to claim 13 above, and further in view of Hofman.

The combination differs from claims 14-15 in that it does not teach the following: feedback suppression means for suppressing feedback between the sound generator and the inner microphone.

However, Hofman teaches the following: feedback suppression means for suppressing feedback between the sound generator and the inner microphone (fig. 2, see abstract).

Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Killion's system to provide for the following: feedback suppression means for suppressing feedback between the sound generator and the inner microphone as this arrangement would facilitate suppression of noise as taught by Hofman, thus facilitating the protection of user's ears.

8. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over in view of Boutonnier et al. (FR 2702275A1, hereinafter Boutonnier).

Regarding claim 16, Killion does not teach the following: inner microphone (40, fig. 1) has a sound inlet for being directed towards meatus, arranged for converting a picked-up sound signal to an output signal, the ear protecting device also comprising an electronic unit including sound analyzing means arranged for analyzing the output signal and comparing the signal with predetermined signals corresponding to acceptable noise limits and for activating an indicator when detecting passing of these limits.



However, Boutonnier discloses visible indicator system warning of sound levels to cause hearing damage which teaches the following: the ear protecting device also comprising an electronic unit including sound analyzing means arranged for analyzing the output signal and comparing the signal with predetermined signals corresponding to acceptable noise limits and for activating an indicator when detecting passing of these limits (fig. 2, see abstract).


Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Killion's system to provide for the following: inner microphone (40, fig. 1) has a sound inlet for being directed towards meatus, arranged for converting a picked-up sound signal to an output signal, the ear protecting device also comprising an electronic unit including sound analyzing means arranged for analyzing the output signal and comparing the signal with predetermined signals corresponding to acceptable noise limits and for activating an indicator when detecting passing of these limits as this arrangement would facilitate the user to get an indication of noise level in the surroundings so that he can protect his hearing as taught by Boutonnier.

9. Claim 12 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melur Ramakrishnaiah whose telephone number is (703) 305-1461. The examiner can normally be reached on M-F 6:30-4:00; every other F Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz can be reached on (703)305-4708. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Melur Ramakrishnaiah  
Primary Examiner  
Art Unit 2643